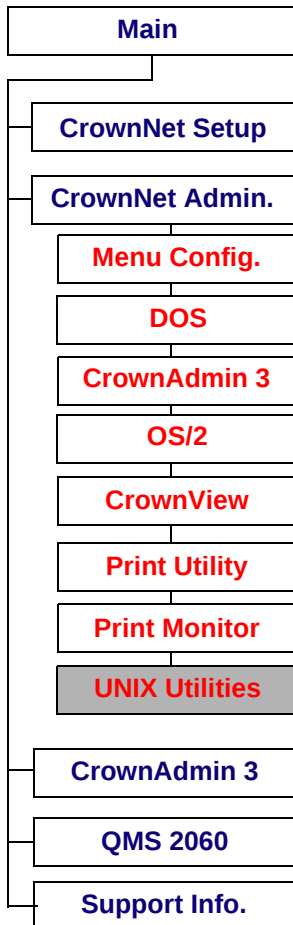


UNIX Utilities

The QMS UNIX Host Software supports many varieties of UNIX, including the following: AIX Version 4.1, HP-UX Versions 9.x and 10.x, Sun Solaris Version 2.5, SunOS Version 4.1.2, SCO Build 10, SGI Version 5.3, and SYS V Release 3.

Use this section for information on:



“HP-UX Versions 9.x and 10.x”

“Setting the Internet Address”

“QMS qpr Command”

“QMS qpr Command”

“FTP (File Transfer Protocol)”

“Password Files”

“Host Address Files”

“Directory Commands”

“Printer Directories”

“Printing and Transferring Files”

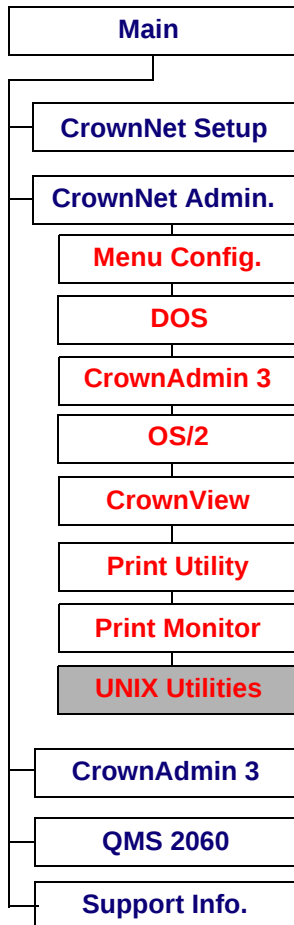
“QMS LPD (Line Printer Daemon)”

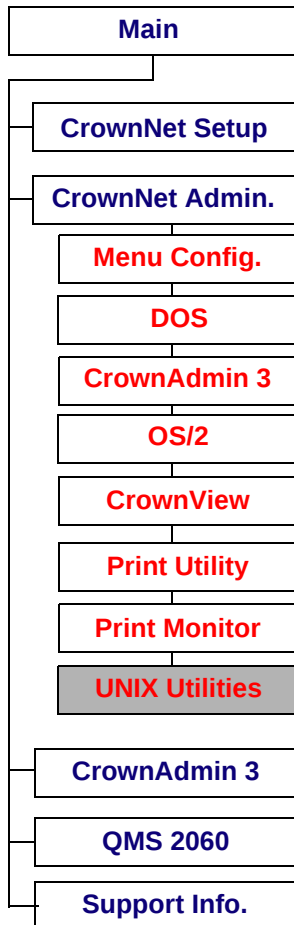
HP-UX Versions 9.x and 10.x

Because the QMS UNIX Host Software supports HP-UX Versions 9.x and 10.x, this section lists the major differences between HP-UX Version 9.x and HP-UX Version 10.x. For more complete information see Hewlett-Packard's *Release Notes for HP-UX 10.x*.

- The minimum memory configuration for Version 10.x is 16 MB.
- Version 10.x uses a new file system layout based on the industry-standard Novell USL and OSF/1 (often called a V.4 file system).

In particular, file/directory locations and system startup/shutdown control have changed. Source files, shell scripts, binaries, build and test environments, documentation, and environmental variables with embedded pathnames may be affected by these file and directory location changes.
- The file system table **/etc/checklist** is not **/etc/fstab**.
- The default location for users' home directories has changed from **/users** to **/home**.
- Version 10 supports the following new HP 9000 computers: Series 800 Model K and Series 700 Model J.





- Version 10 supports all Series 700/800 computer's running Version 9.x **except** the following:
 - Series 700 (Models 705, 710, 730, and 750)
 - Series 600/800 (Models 635SV, 645SV, 808, 815, 822S, 825S, 832S, 835S, 835SE, 840S, 842S, 845S, 850S, 852S, 855S, 860S, 865S, 870S/100, 870S/200/300/400)
 - Any Series 800 with an 8 MB memory card in the first slot.
- Version 10.x provides HP Software Distributor, a new tool for installing and updating software
- In Version 10.01 and later, NFS Diskless replaces Version 9.x's DUX Diskless. Neither NFS Diskless nor DUX Diskless is supported in Version 10.0.

Setting the Internet Address

The printer's Internet (network) address is in the format `xxx.xxx.xxx.xxx`. It must be set, and it must be unique. There are three ways to set the Internet address:

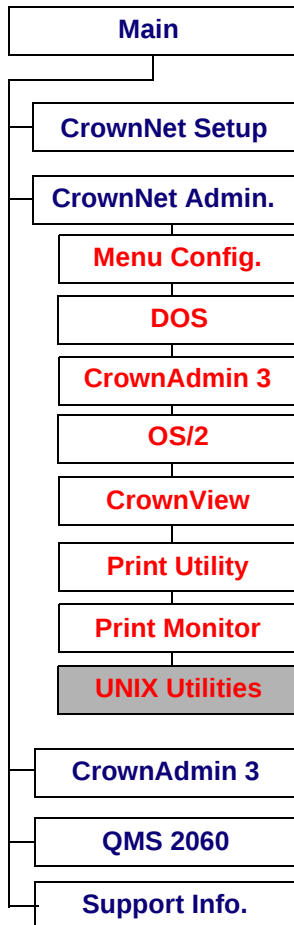
- The Administration/Communications/Networkx/CrownNet/TCPIP/Internet Address submenu, explained in Menu Config, “[Setting the Internet Address](#)”.
- The bootp protocol, explained in the following section. “The bootp Protocol.”
- The rarp protocol, explained later in “The rarp Protocol.”

The bootp Protocol

The Bootstrap Protocol (bootp) is an application-level protocol used for reading operating environment parameters (such as the Internet address) at printer startup.

- 1 If necessary, update the system host table by adding the following line to the `/etc/hosts` file:

```
internetaddress hostname↵
```



where *internetaddress* is the Internet address of the printer and *hostname* is the name of the host.

2 If necessary, update your alias name databases (Yellow Pages and YP/NIS).

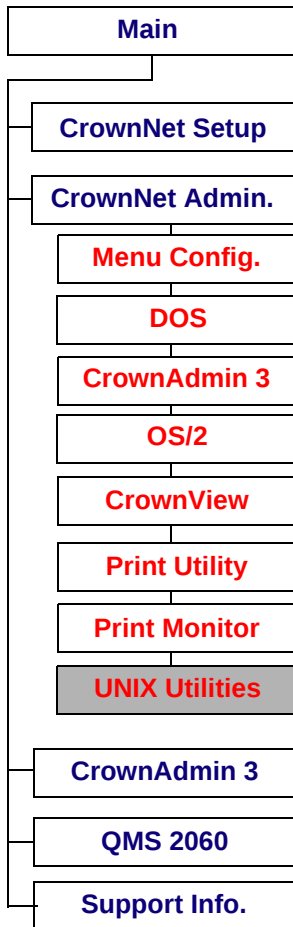
Use the **cd/var/yp** and **make** commands.

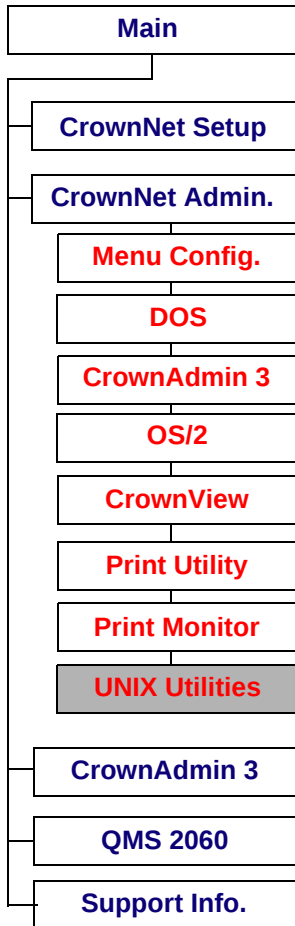
3 Add the following single line to the boot table (usually, the /etc/bootptab file) on your host:

```
hostname: ht=type: vm=format: ha=hardadd:
ip=intadd: sm=submask: gw=router
```

Use the following table to find the appropriate information with which to replace the variables in this line:

This field...	uses this variable.	Replace the variable with...
Host Name	hostname	the name of the host
ht Hardware Type	<i>type</i>	the hardware type: ether—Ethernet token—Token-Ring
vm Vendor Magic	format	the bootp report format— usually, this should be rfc1048





ha Hardware Address	hardadd	the printer's Ethernet or Token-Ring address
ip Internet Address	intadd	the printer's Internet address
sm Subnet Mask	submask	the subnet mask value
gw Gateway	router	the default router (gateway) address

- 4 Start the bootp daemon (if it isn't already running). Usually, the command is

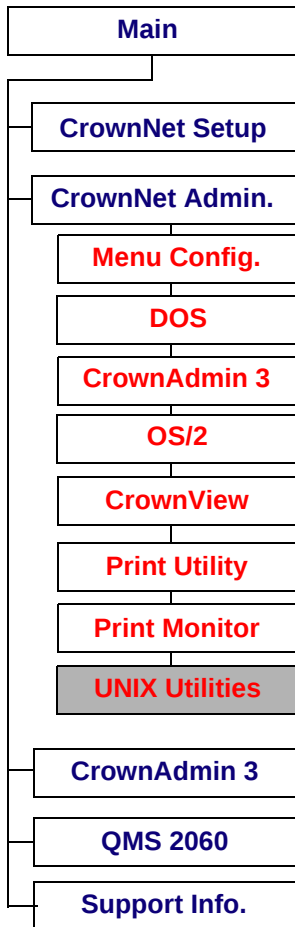
```
bootpd
```

However, this command is system dependent. Consult your system documentation.

- 5 Restart the printer to download the Internet address, default router (gateway) address, and subnet mask.

The rarp Protocol

The Reverse Address Resolution Protocol (rarp) is a low-level transport layer protocol that reads the Internet address at printer startup. The following procedure explains how to use rarp to set the printer's Internet address:



- 1 If necessary, update the system host table by adding the following line to the `/etc/` hosts file:

```
internetaddress hostname
```

where *internetaddress* is the Internet address of the printer and *hostname* is the name of the host.

- 2 If necessary, update your alias name databases (Yellow Pages and YP/NIS).

Use the `cd/var/yp` and `make` commands.

- 3 Add the following line to the Ethernet Address table (usually, the `/etc/ethers` file) on your host:

```
xx:xx:xx:xx:xx:xx name
```

where `xx:xx:xx:xx:xx:xx` is the hardware address of the printer and *name* is the printer name.

- 4 Start the rarp daemon (if it isn't already running). Usually, the command is

```
rarpd -a
```

However, this command is system dependent. Consult your system documentation.

5 Restart the printer to read the Internet address.

QMS qpr Command

If you're printing files over TCP/IP, the QMS **qpr** command can be used to send files to your QMS printer.

Syntax

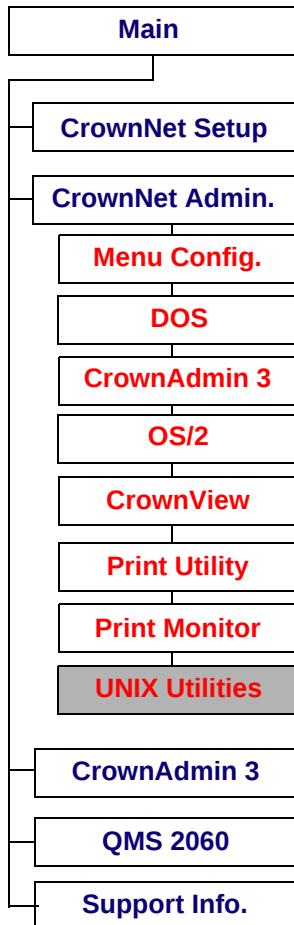
To use the command, type

```
qpr options file↵
```

where *options* is replaced by the appropriate options from the following table and *file* is the file you want to print.

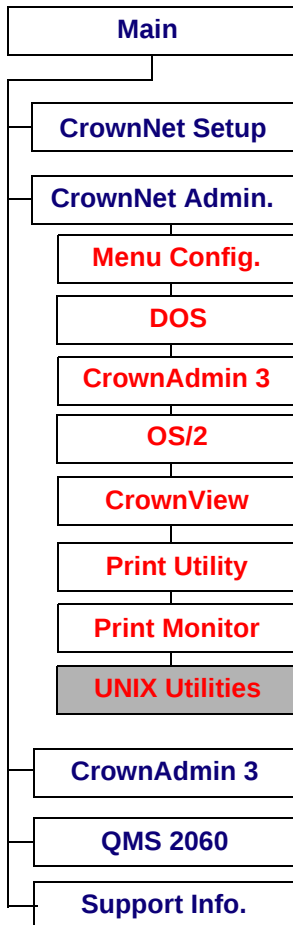
Options

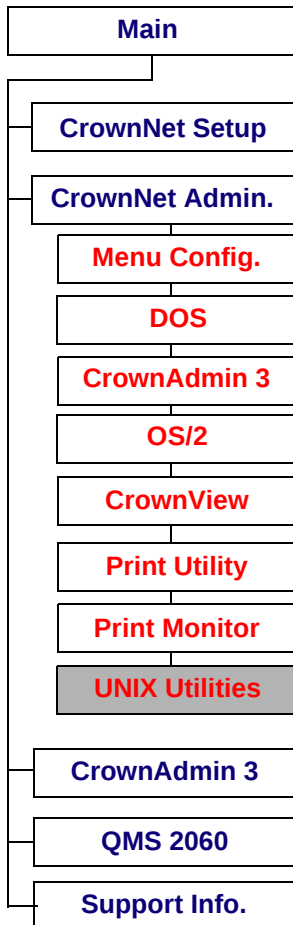
The following options are available for the QMS **qpr** command.



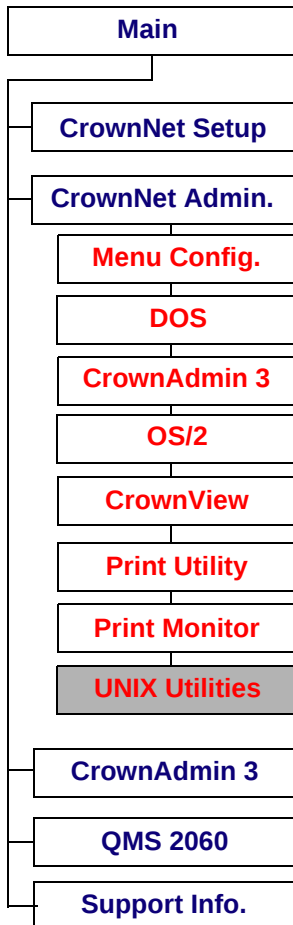
» **Note:** *Not all options are supported by all QMS printers.*

-# <i>n</i>	Prints <i>n</i> copies of the document. Note that this does not pass the value to the spooler as the argument for its copies function.
-B <i>value</i>	Draws a border around the page spot which is <i>value</i> pixels in width.
-c	Enables collation (if supported by your printer) when multiple copies are requested.
-C <i>option</i>	Scales the logical page to fit within its page spot. <i>option</i> can be on or off.
-d	Prints the document in duplex mode (if supported by your printer).
-D <i>string</i>	Includes <i>string</i> in the Document Option Command data.
-f <i>title</i>	Changes the title of the document (file) on the header page to <i>title</i> . The default title is the name of the file.
-F <i>left top</i>	Specifies the offsets of the logical page within its page spot. Offsets are positive or negative displacements from the edges in decipoints ($1/720''$).
-g <i>fn cycle unit</i>	Requests that filename <i>fn</i> (a printer-resident file) be compiled and displayed as the background image of the job. If <i>cycle</i> is "1" the background image prints only on the first page of the job. If cycle is "*" the background image is repeated for each page of the job. If <i>unit</i> is "sheet" (background image to a sheet face) the background job is mapped onto the physical sheet using formats specified by the image file. If <i>unit</i> is "page" (background image to a logical page), the background job is mapped onto the logical page using formats specified by the job.

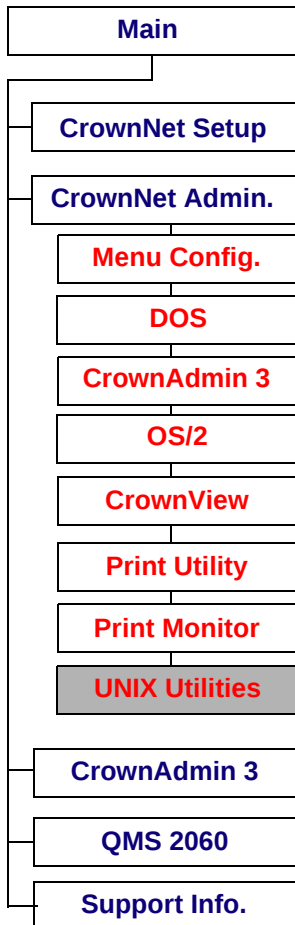




-G <i>col row sp order</i>	Determines the number and size of page spots per sheet (<i>col</i> is the number of columns per sheet, <i>row</i> is the number of rows per sheet, and <i>sp</i> is the space between columns), and the logical order in which logical pages should be placed within the page spots.
-h <i>option</i>	Turns the header page on or off for the current print job. <i>option</i> can be on or off.
-H <i>source</i>	Specifies the input bin to be used for the header page. Bins are the same as for -l .
-i <i>type</i>	Identifies the physical size of the paper supported by the printer and/or controller. <i>type</i> can take the following values: Letter, Legal, Ledger, Executive, A5, A4, A3, B5, and B4.
-l <i>bin</i> [l is a capital i]	Identifies the number of the input bin containing the paper to be used: 1, 2, 3, 4, manualfeed, or "*" (the quotation marks are mandatory). The "*" requests any available input bin of the specified paper size (-i type) except the manual feed tray. » Note: Available input bins vary, depending on your printer.
-K # <i>fold mar thick</i>	Prints the job in booklet format. # specifies the number of sheets of paper making up the booklet. <i>fold</i> specifies the direction of the fold (vertical/horizontal). <i>mar</i> specifies the distance between the logical page and the fold. <i>thick</i> is the thickness of the paper being used in ¹ / ₁₀ mils (in other words, in increments of ¹ / _{10,000} ").



-l <i>language</i> [l is a lowercase L]	Specifies the language or emulation (such as hpgl or pcl) to be used by the printer to interpret the document. This should correspond to the language used in preparing the document. Refer to your printer documentation for information on supported languages and emulations.
-ls [l is lowercase L]	Invokes landscape orientation.
-m	Sends notification via mail(1) when the print job completes. This option is passed to the local system spooler, and it is the spooler's responsibility to effect the notification.
-M <i>left top rt bot alt</i>	Specifies the margins which encompass all marks printed on a given sheet for all sheets of a given document. Margins are displacements from the edges of the sheets measured in decipoints ($\frac{1}{720}$ "). <i>left</i> is the left margin, <i>top</i> is the top margin, <i>rt</i> is the right margin, <i>bot</i> is the bottom margin, and <i>alt</i> is the alternate margin.
-o <i>bin</i>	Identifies the number or logical name of the output bin to be used: 1, 2, 3, <i>name</i> , or "*" (the quotation marks are mandatory). The "*" requests any available face-down output bin. » Note: Available output bins vary, depending on your printer.
-p	Invokes portrait orientation.
-P <i>printer</i>	Sends the file(s) to <i>printer</i> . If <i>printer</i> is omitted, the file(s) is sent to the user's default printer as given by the PRINTER environment variable for BSD systems or by the system default destination for SYSV systems.
-r <i>resolution</i>	Uses the print resolution or dot density of <i>resolution</i> . Available resolutions are product dependent.



-R <i>fpage</i> <i>lpage</i>	Specifies a range of logical pages to print. You may use “*” (the quotation marks are mandatory) for <i>lpage</i> to indicate the end of the document. The default setting is 1 “*” (the quotation marks are mandatory).
-S <i>type</i>	Selects the size of the logical page mapped to the physical sheet of paper to be used by the current print job. The values of <i>type</i> are the same as for -i.
-t	Prints the document in tumble duplex mode (if supported by your printer).
-tr <i>option</i>	Turns the trailer page on or off for the current print job. This option can be on or off.
-ts <i>option</i>	Specifies the input bin to be used for the trailer page. Bins are the same as for -l. This option must be used with -tr.

Notes

- The number of copies to be printed and the duplexing parameters may be overridden by specifications within the document itself. Refer to your printer user's guide for availability of specific features. Also refer to your *QMS Crown Document Options Commands* manual for the correct DOC syntax.
- The local system spooler, lpr(1) or lp(1), is assumed to reside along the invoker's path.
- **qpr** terminates the DOCs it adds to the beginning of the file with the command **%%EndComments**. DOCs that are already coded within a

file prior to printing with **qpr** will not be parsed as DOCs when sent by **qpr** because of this terminating command.

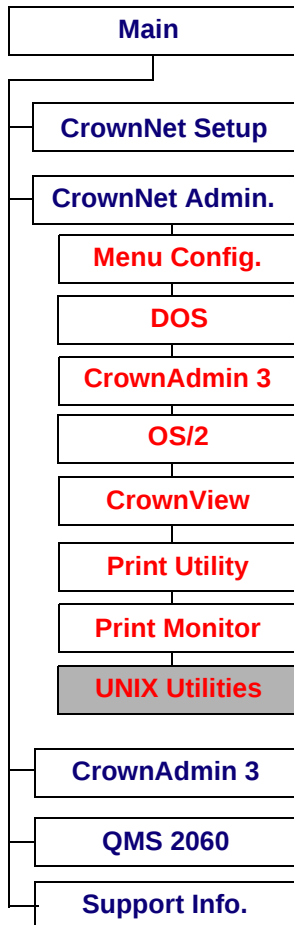
FTP (File Transfer Protocol)

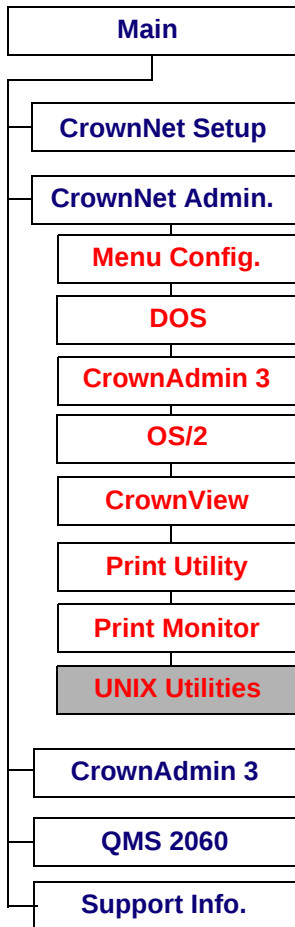
The usual implementations of FTP are designed to transfer files from host to host. The QMS TCP/IP implementation is designed to allow the transfer of files from a host to an FTP server in a QMS Crown printer. This makes it easy for you to do tasks such as log on the printer, check the number of jobs in the print queue, list the available fonts, and send files to the printer.

While FTP is an interactive program that requires you to log on the printer before sending commands, these commands can be entered into a UNIX shell script or a PC batch file that executes the commands automatically. In this way, a continuous check of the printer job queue, for example, can be done by writing a script that loops around the appropriate FTP commands.

Supported FTP Commands

Since several FTP commands are not applicable to a printing environment, the QMS implementation supports a printer-related subset of the standard

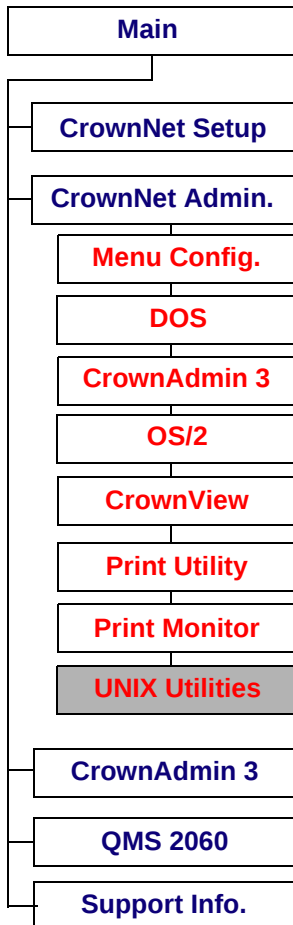




FTP commands. Because requests for information such as job status or a list of current fonts are not explicit FTP commands, other methods are used to obtain this type of information. These methods are described later in this chapter.

It is important to note that all versions of FTP are not identical. However, the following commands are supported by most implementations of FTP, including the QMS implementation:

Use this command...	to...
<code>cd <i>directory</i></code>	change to the specified printer directory
<code>close</code>	terminate the ftp session
<code>dir</code>	list the contents of the current printer directory
<code>get</code>	receive a file from the printer
<code>help</code>	list commands that are currently supported by the FTP server
<code>ls</code>	list the contents of a directory (filenames only)
<code>mput <i>filenames</i></code>	send multiple files to the printer
<code>open</code>	open an ftp session on the printer
<code>put <i>filename</i></code>	send one file to the printer
<code>pwd</code>	display the full pathname or the current printer directory



quit	exit from FTP
type <i>filetype</i>	specify whether the system is to interpret print files as binary or ASCII data

Logging in to a Printer via FTP

When you connect to a QMS Crown printer using FTP, you can interactively request information from the printer as well as send data to the printer to be printed or stored.

To log in to a printer, type either

```
ftp printername↵
```

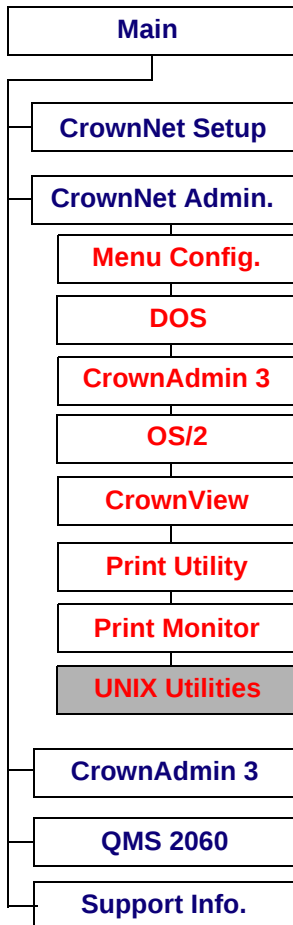
(where *printername* is the host name of the printer to which you want to connect) or

```
ftp ipaddress↵
```

(where *ipaddress* is the IP address of the printer to which you want to connect).

Example

The host in this example is identified as unix, and the printer is identified as chaucer:



```

[unix, 227] ftp chaucer␣
Connected to chaucer.
220 QMS CrownNet Rev x.x
220 QMS 1725E System; Release 1.1; Firmware 1; Processor
R3081; CROWN 0; ready.
Name (chaucer:brian): root␣
331 User name ok, need password
Password: ␣
230 User logged in
ftp>
    
```

Exiting from a Printer via FTP

To exit from the printer and close the FTP connection, at the prompt type

quit.

» **Note:** The close command also allows you to exit from the printer, but FTP remains active.

Example

```

ftp> quit␣
221 Goodbye
unix 2]
    
```


Password Files

If the printer has a hard disk, you can secure the files on the hard disk through the use of passwords. Installing a password file is a three-step procedure:

- Create the password file
- Download the password file
- Turn the printer off and restart it for the passwords to take effect

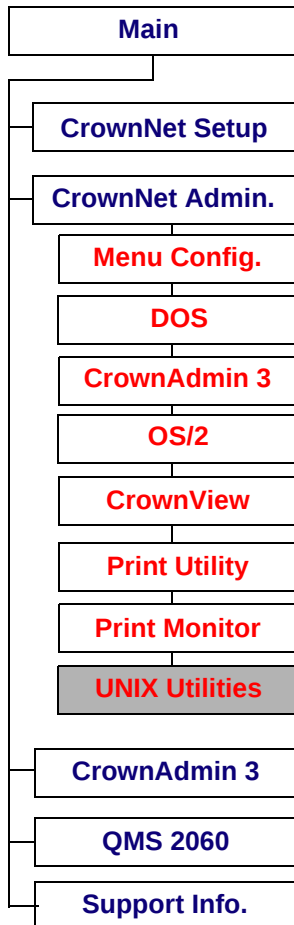
» **Note:** *If you have a security key for your printer, you can set an Administration menu password for the special administrative account "root" via the printer control panel.*

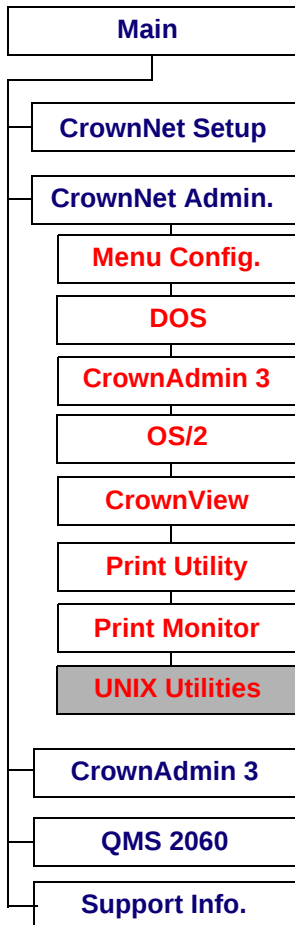
Create the Password File

Create the password file on the local host. The password file must be named PASSWD.FTP. The format of the password file is

```
account1:password1
account2:password2
account3:password3
...
```

▲ **Caution:** *Since passwords are encrypted, keep the original password file in a secure place on the host computer.*





Download the Password File

- 1 Make sure the Administration/Communications/Networkx/Crown-Net/TCPIP/Secure Files option is disabled.

See “TCP/IP Menu” in Menu Config, for complete information.

- 2 Make sure the printer's hard disk is configured correctly.

- 3 Log in to the printer as root.

- 4 Type `cd admin` to change to the admin directory.

- 5 Type `put passwd.ftp` to copy the password file to the admin directory on the printer's hard disk.

» **Note:** If there is no hard disk or if the hard disk is not correctly configured, the following message is displayed: Can not open file on printer.

Example—In this example, the user has already completed steps 1-3 above.

```

ftp> cd admin
250 Cdir okay
ftp> put passwd.ftp
200 PORT command okay
150 Opening connection
226 Transfer complete
local: PASSWD.FTP remote: passwd.ftp
    
```

```
37 bytes sent in 0.025 seconds (1.4 Kbytes/s)
ftp> quit␣
221 Goodbye
unix 5]
```

Restart the Printer

Once you have downloaded the password file, turn the printer off and back on again for the passwords to take effect.

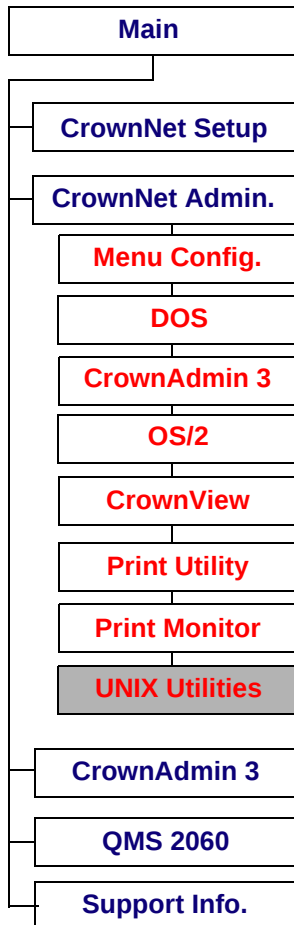
Logging In with a Password

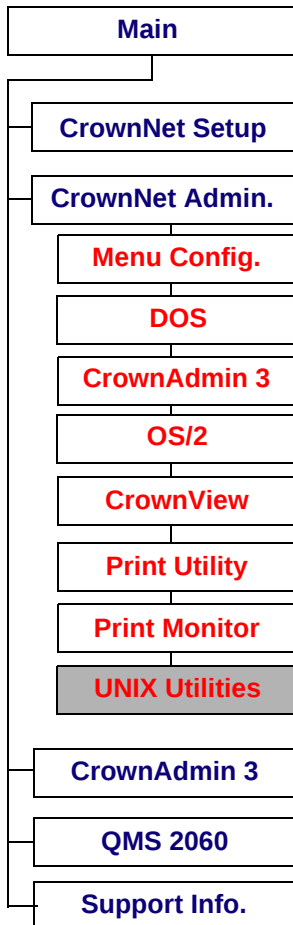
Once the passwords are in effect, users are prompted for a password when they log in to the printer.

Example—Incorrect Password

This example shows what happens when you try to log in with an incorrect password (notice that the password does not appear on the screen when you type it). The host in this example is identified as unix, and the printer is identified as chaucer:

```
unix 6] ftp chaucer
Connected to chaucer.
220 QMS CrownNet Rev. x.x
```





```

220 QMS 1725E System; Release 1.1; Firmware 1; Processor
R3081; CROWN 0; ready.
Name (chaucer:brian): jess␣
331 User name ok, need password
Password:      ␣␣
530 Login failed
ftp> quit␣
unix 7]
    
```

Example—Correct Password

This example shows what happens when you log in with a correct password (notice that the password does not appear on the screen when you type it). The host in this example is identified as unix, and the printer is identified as chaucer:

```

unix 8] ftp chaucer
Connected to chaucer.
220 QMS CrownNet Rev. x.x
220 QMS 1725E System; Release 1.1; Firmware 1; Processor
R3081; CROWN 0; ready.
Name (chaucer:brian): jess␣
331 User name ok, need password
Password:      ␣␣
230 user logged in
ftp>
    
```

Listing the Contents of the Password File

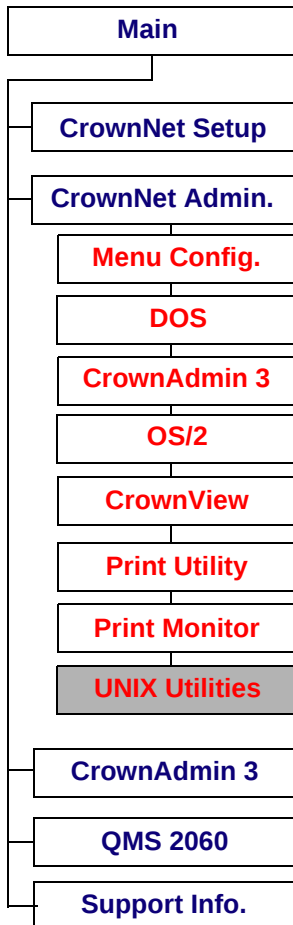
Use the UNIX **cat** command to list the contents of the original PASSWD.FTP file on the host system:

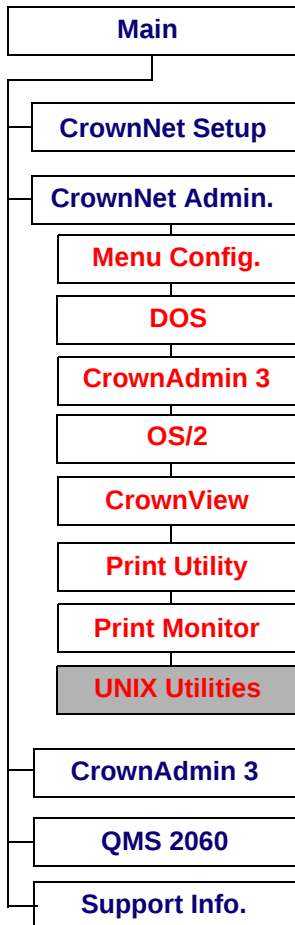
```
unix 9] cat password.ftp.
jess:newark
brian:wilmington
karen:whonoz
ken:deerfield
janice:mobile
melissa:elibom
```

Host Address Files

If your printer has a hard disk, you can ensure that only host computers with one of the specified Internet addresses are allowed access to the printer through the use of a host address file. Installing a host address file is a three-step procedure:

- Create the host address file.
- Download the host address file to the hard disk.
- Turn off and restart the printer for the host addresses to take effect.





Create the Host Address File

Create the host address file on the local host The host address file must be named HOST.EQ. The format of the host address file is

```

192.009.200.001
192.009.300.003
192.009.300.006
    
```

Download the Host Address File

- 1 Make sure the Administration\Communications\Networkx\Crown-Net\TCPIP/Secure Files option is disabled.

See “TCP/IP Menu” in Menu Config, for complete information.

- 2 Make sure the printer's hard disk is configured correctly (see “Identifying Hard Disks,” later in this chapter).

- 3 Log in to the printer as root.

- 4 Type `cd admin.` to change to the admin directory.

- 5 Type `put host.eq.` to copy the host address file to the admin directory on the printer's hard disk.

» **Note:** If there is no hard disk or if the hard disk is not correctly configured, the following message is displayed: Can not open file on printer.

Example—In this example, the user has already completed steps 1-3 above.

```
ftp> cd admin.␣
250 Ckdir okay
ftp> put host.eq.␣
200 PORT command okay
150 Opening connection
226 Transfer complete
local: host.eq remote: host.eq
37 bytes sent in 0.025 seconds (1.4 Kbytes/s)
ftp> quit.␣
221 Goodbye
unix 14]
```

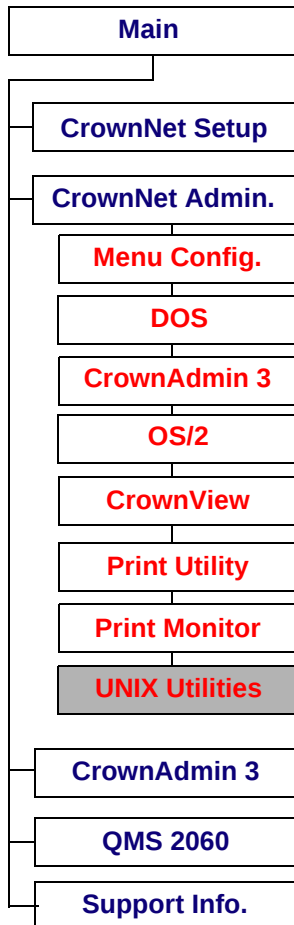
Restart the Printer

Once you have downloaded the host address file, turn the printer off and back on again for the file to take effect.

Listing the Contents of the Host Address File

Use the UNIX **cat** command to list the contents of the original HOST.EQ file on the host system:

```
unix 16] cat host.eq.␣
192.009.200.001
```



```
192.009.300.003
192.009.300.006
```

Directory Commands

This section describes the following commands:

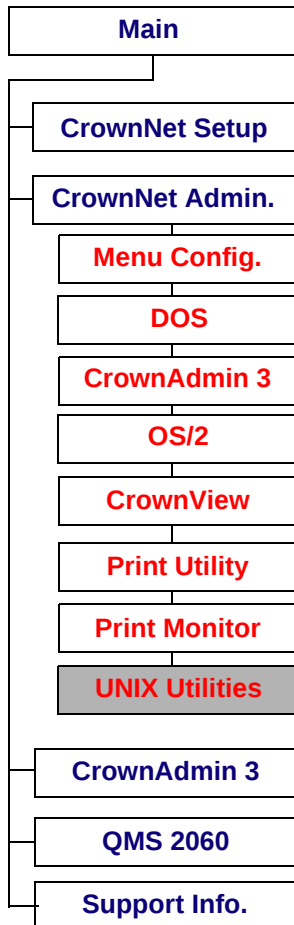
- **pwd**—Displays the current (working) directory
- **cd**—Changes directories
- **dir**—Lists the contents of a directory

Displaying the Current Directory (pwd)

To determine the current (working) directory, type **pwd**↵

Example

```
ftp> pwd↵
257 "usr" is the current directory.
ftp>
```

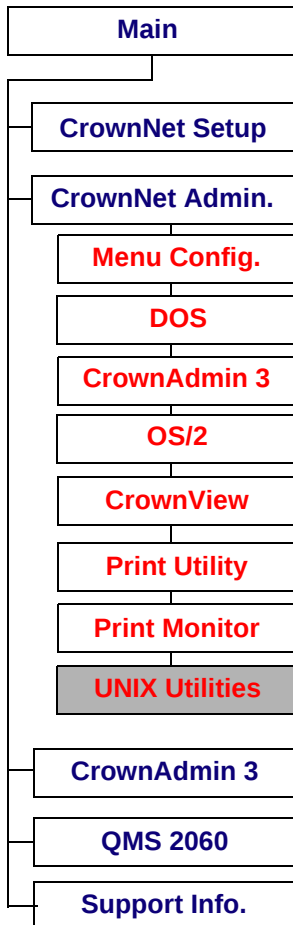


Changing Directories (cd)

To change directories, use the **cd** command:

- Type **cd *directoryname***↵ to change to a directory with the name *directoryname*.
- Type **cd /**↵ to return to the printer root directory.

In both situations, the message 250 CWD command successful displays on your monitor.



Listing the Contents of a Directory (dir)

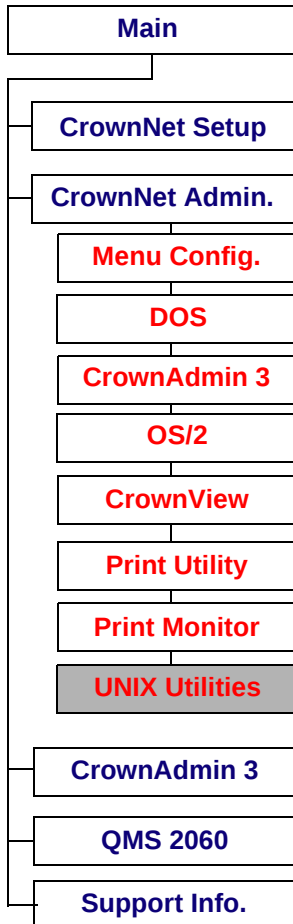
To list the contents of a directory, type **dir**↵

Example—This example lists the directories available in the printer's root directory. The following sections of this chapter describe these printer directories in more detail.

```
ftp> dir↵
200 PORT command successful
150 Opening data connection for dir
    (161.33.128.1.7.107) (0 bytes), (mode ascii.

admin
disk
help
no_doc_cmds
usr

226 Transfer complete.
28 bytes received in 0.01 seconds (2.7 Kbytes/s)
ftp>
```



Printer Directories

The following printer directories are available.

- » **Note:** Putting a file to any directory other than ADMIN, DISK, and USR causes the file to print.

ADMIN Directory

Only users logged in as root have access to this directory. The HOST.EQ and PASSWD.FTP files are stored in this directory.

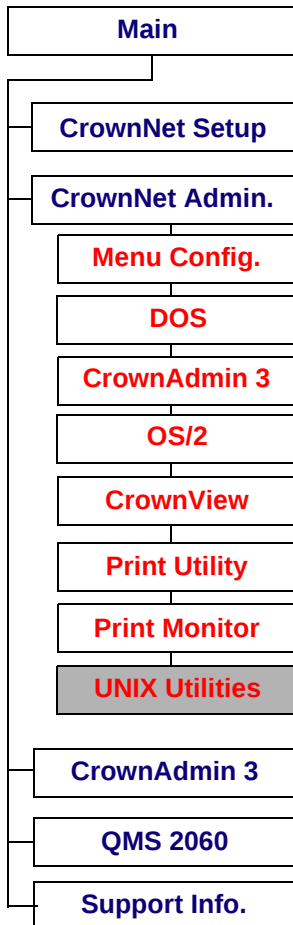
You can **put** files to or **get** files from this directory. To **get** a file, you must know the filename in advance.

- » **Note:** Typing `dir↵` in this directory produces the error message *invalid dir command*.

DISK Directory

Only users logged in as root have access to this directory. The printer's hard disk(s) are accessed through this directory.

You can **put** files to or **get** files from any physical subdirectory. The complete pathname must be specified.



» **Note:** Typing `dir` in this directory produces the error message *invalid dir command*.

HELP Directory

After changing to this directory (`cd help`), type `dir` to list the commands supported by the server.

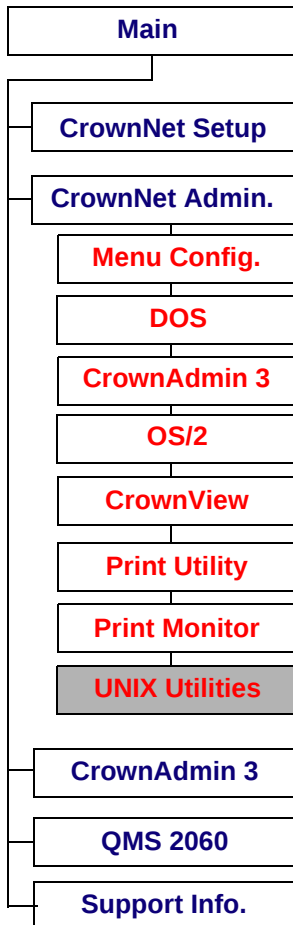
» **Note:** This list differs according to whether you are logged in with or without “root” privileges.

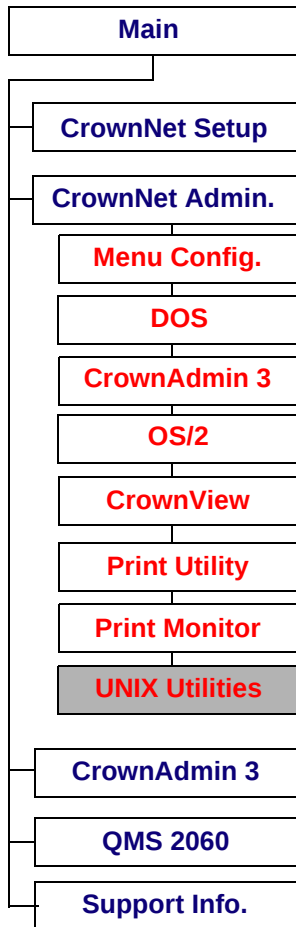
putting a file to this directory causes the file to print. On the printed file’s header page and in the JOBS directory under Remote Console, the file-name is displayed in the **%%Title:** field, and your FTP logon name is used in the **%%For:** field.

NO_DOC_CMDS Directory

putting a file to this directory causes the file to print. On the printed file’s header page and in the JOBS directory under Remote Console, the file-name is displayed in the “Title:” field, and your FTP logon name is used in the “For:” field.

The QMS Document Option Commands (DOC) **%%Title** and **%%For** override the default “Title:” and “For:” fields. However, FTP printing





requires that jobs using **%%Title** and **%%For** commands be **put** to the printer interface's NO_DOC_CMDS directory. If jobs are **put** to any other directory, these commands are ignored. (See the *QMS Document Option Commands* manual for more information about DOCs.)

In the two examples below, the user (scottc) has included the following DOCs at the beginning of the file SCOTTC.TXT, which is **put** to two different printer directories:

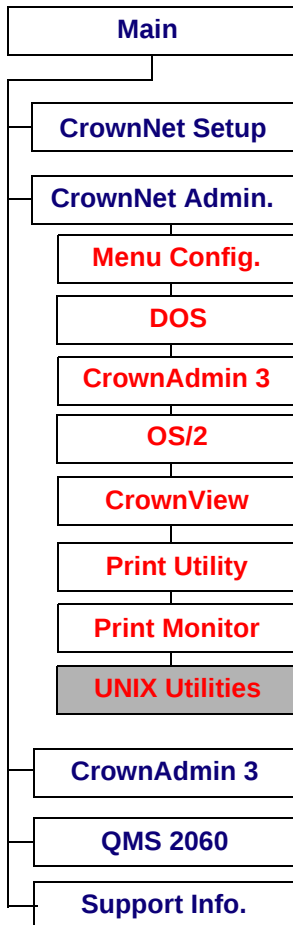
```

%!
%%Title: Scottc Title
%%For: Scottc For
%%Routing: Scottc Routing
%%IncludeFeature:header(on)trailer(off)
%%End Comments
    
```

Example 1—In this example, the user (scottc) **puts** the file SCOTTC.TXT to a printer directory other than NO_DOC_CMDS:

```

ftp> put scottc.txt
200 PORT command successful
150 Opening data connection for scottc.txt
(161.33.128.1.7.107), (mode ascii.
    
```



```

226 Transfer complete
local:scottc.txt remote: scottc.txt
10457 bytes sent in 0.009 seconds
(1.1e+02 Kbytes/s)
ftp>

```

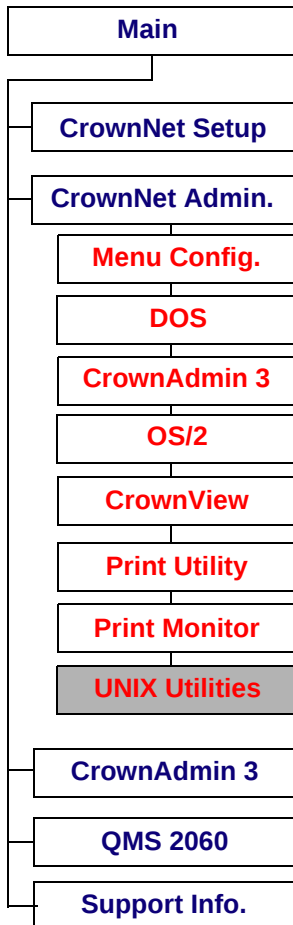
When the job is printed, the following information is included on the header page. Notice that the default job owner (the name under which the user logged in: scottc) and the default job title (scottc.txt) are used. The **%%Title** and **%%For** DOCs are ignored, but the **%%Routing** DOC is interpreted correctly.

Example 2—In this example, the user (scottc) puts the file SCOTTC.TXT to the NO_DOC_CMDS directory:

```

ftp> cd no_doc_cmds.
250 CWD command successful.
ftp> put scottc.txt
200 PORT command successful.
150 Opening data connection for scottc.txt
(161.33.128.1.7.107), (mode ascii.
226 Transfer complete
local:scottc.txt remote: scottc.txt
10457 bytes sent in 0.04 seconds
(2.6e+02 Kbytes/s)
ftp>

```



When the job is printed, the following information is included on the header page. Notice that the information given in the **%%For** and **%%Title** DOCs overrides the default job owner and job title.

emulation

JOB #

Scottc Title

For: Scottc For

Routing: Scottc Routing

Submit queue:Ethernet

Submitted 0:36:32

Started: 0:36:32

USR Directory

You can **put** files to or **get** files from this directory. To **get** a file, you must know the filename in advance.

» **Note:** *Typing `dir` in this directory produces the error message `invalid dir command`*

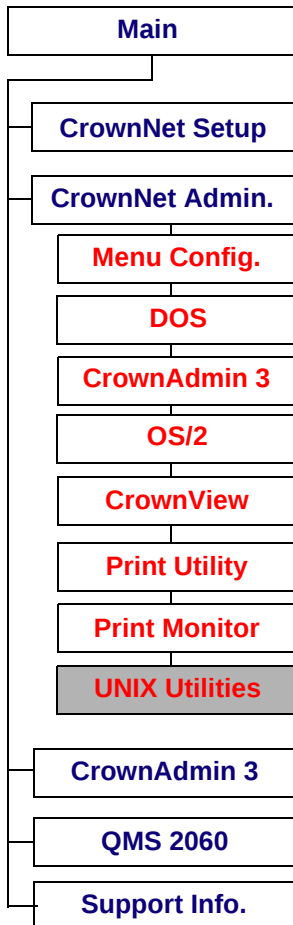
Printing and Transferring Files

Four commands—**type**, **put**, **mput**, and **get**—allow you to work with printer files.

type Command

The **type** command allows you to check or set the file transfer mode. Its function depends on whether or not you include a filetype after the command:

Syntax	type
Purpose	Checks the current filetype
Syntax	type filetype
Purpose	Sets the type of data contained in the file to be put (sent) to the printer.
filetype	binary—For 7-bit or 8-bit binary data ascii—For other data
Notes	This command changes the way the host sends data, not how the interface receives the data. From the host's point of view, the primary difference between binary and ASCII files is the way carriage returns and line feeds (<CR> and <LF>) are handled Binary—<CR>=<CR> and <LF>=<LF> ASCII—<CR>=<CR>+<LF> and <LF>=<LF>+<CR>



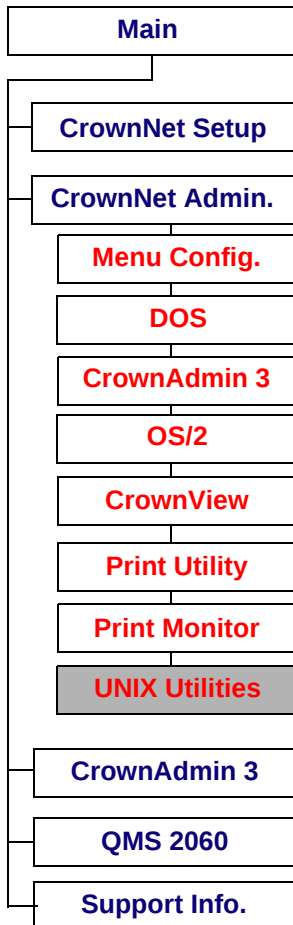
Example—In this example the **type** command changes the transfer mode to binary:

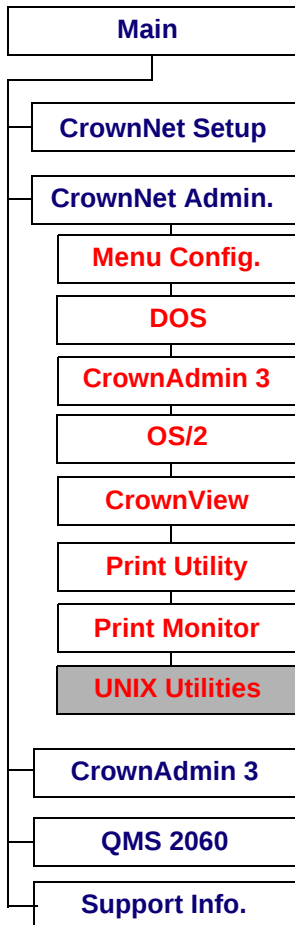
```
ftp> type binary␣
200 Type set to I
ftp>
```

put and mput Commands

The **put** command allows you to send a file to the printer for printing or storage. The **mput** command allows you to send multiple files to the printer for printing or storage.

Syntax	put <i>filename</i> mput <i>filenames</i>
Purpose	put sends a file to the printer or downloads the file to the printer's hard disk. mput sends several files to the printer or downloads several files to the printer's hard disk.





filename	The filename(s). If the files are not in the host's root directory, use the full pathname. Wildcards are acceptable with the mput command.
Notes	You can use the put or mput command in any directory. However, to put or mput files to a hard disk, you must be in the ADMIN, DISK, or USR directory. (If you are not already in the directory, the file prints.) Only users with "root" privileges can put or mput files to the ADMIN and DISK directories. The ADMIN directory assumes that the path is SYS:/ADMIN), but you must change to the USR directory before you can put or mput files there: ftp> put filename SYS:/usr/files/filename. If you attempt to put or mput files to the printer while the printer is off line, you are told that the printer is off line, and then FTP waits until the printer is placed back on line to send the file(s).

Example—In this example all of the files in the current directory are **mput** (sent) to the printer:

```

ftp> mput *.*
mput file.ext? y
200 PORT command successful
150 Opening data connection for file.ext
(161.33.128.1.7.107), (mode binary).
226 Transfer complete
mput file2.ext? y
200 PORT command successful
150 Opening data connection for file.ext
(161.33.128.1.7.107), (mode binary).

```

```
local file2.ext remote: file2.ext
226 Transfer complete.
10457 bytes sent in 0.04 seconds
(2.6e+02 Kbytes/s)
ftp>
```

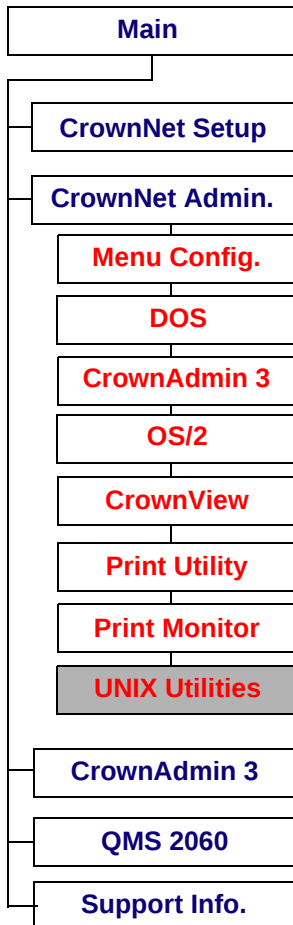
get Command

The **get** command allows you to transfer files from the printer to the host.

Syntax	<code>get filename</code>
Purpose	Transfers files from the printer's hard disk to the host.
filename	The name of the file as it appears on the printer's hard disk. If the file is not in the host's root directory, use the full pathname.
Notes	If the current directory is ADMIN, only users with "root" privileges can get files. The USR directory assumes that the path is DSK7:/USR, DSK6:/USR, or DSK5:/USR (whichever is applicable.) However, if you are in the DISK directory, you must give the entire path for <i>filename</i> . For example, <code>ftp> get SYS:/admin/passwd.ftp password</code>

Example—This example shows how to **get** (transfer) *filename* from the printer to the host:

```
ftp> get file3.ext
200 PORT command successful
150 Opening data connection for file.ext
```



```
(161.33.128.1.7.107), (mode binary).
local file3.ext remote: file3.ext
226 Transfer complete.
10457 bytes sent in 0.04 secondsd
(2.6e+02 Kbytes/s)
ftp>
```

QMS LPD (Line Printer Daemon)

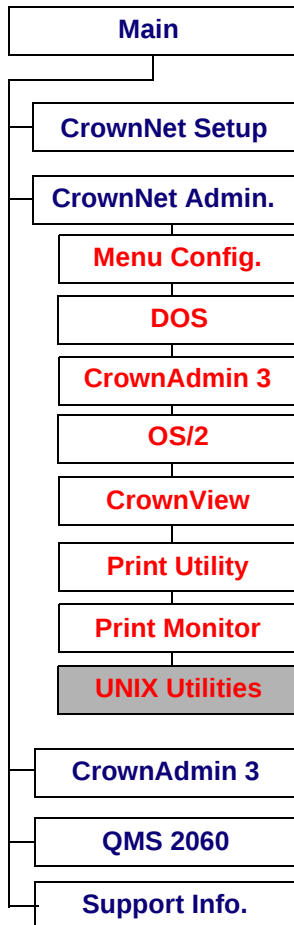
The QMS LPD (Line Printer Daemon) allows your printer to appear as a remote UNIX print system to all supported BSD LPD-capable systems. The Berkeley remote print system is supported by many hosts and is easy to configure. It must be RFC 1179 compliant.

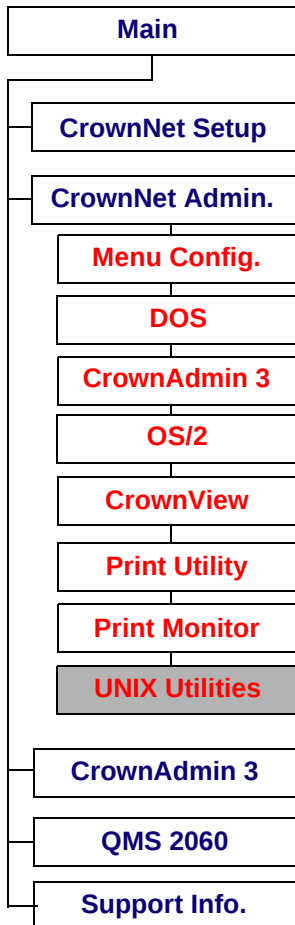
» **Note:** *The QMS LPD does not support any of the optional command line parameters used by lp or lpr.*

Configuring the Host to Use the QMS LPD

Before you can use the QMS LPD to provide print job spooling, you must make the following configuration changes on the host:

- Modify the TCP/IP host table in the host's /etc/hosts file.





■ Modify the printer's entry in the host's `/etc/printcap` file.

- » **Note:** *Some systems do not use `/etc/printcap` for configuration. See your UNIX system documentation for the equivalent commands.*

Modifying the TCP/IP Host Table

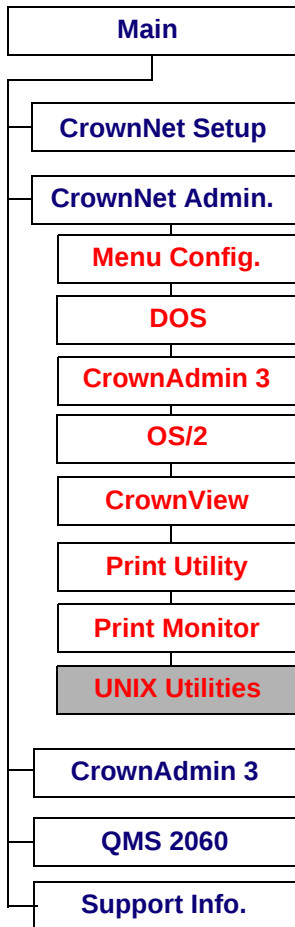
The TCP/IP host table on the BSD system is found in the `/etc/hosts` file. You must modify this table to associate the printer's Internet address with its TCP/IP network node name.

- » **Note:** *The printer's Internet address is set in the Administration/Communications/Networkx/CrownNet/TCP/IP/Internet Address menu. (See "[TCP/IP Menu](#)" in Menu Config, for more information.)*

For example, if the printer's Internet address is 192.009.200.140 and its TCP/IP network node name is "qms," you would add the following line to the `/etc/hosts` file:

```
192.9.200.140      qms
```

- » **Note:** *For systems running the Domain Name Service (DNS), this Internet address/node name pairing should also be added to the DNS administrative database files. (See your UNIX documentation for more information.)*



Modifying the Printcap Entry

The printer capability file is `/etc/printcap`. The UNIX **lpr** command looks for this file each time a print request is made. Therefore, there must be an entry in this file corresponding to the printer's TCP/IP network node name in the TCP/IP host table. For example, if you use the same node name as in the previous example, "qms," you would add the following entry to the `/etc/printcap` file.

```

QMS|QMS Printer:\
:lp=:\
:sd=/usr/spool/anyqueue:\
:rm=qms:\
:rp=anyqueue
  
```

In this entry, QMS is the host queue name, **lp** specifies the device to which you are printing (it is undefined here since you are printing remotely), **sd** stands for "spool directory," **qms** is the name of the printer (**rm** stands for "remote machine") in the host's TCP/IP host table (identified in the previous section), and *anyqueue* is the printer queue name (**rp** stands for "remote printer").

Using LPD

Once you have modified the necessary host files, you can use the UNIX **lpr** command to print a file (and take advantage of the QMS LPD):

```
lpr -PQMS filename
```

“QMS” is the host queue name you specified in the /etc/printcap file. If the -P option is not used, **lpr** uses the printer specified in the PRINTER environment variable or the default lp.

The QMS LPD observes the spooling options (Spooling On, Spooling On Input Idle, and Spooling On Idle) currently set in the Administration/Communications/Networkx/CrownNet/Common/Spooling printer menu.

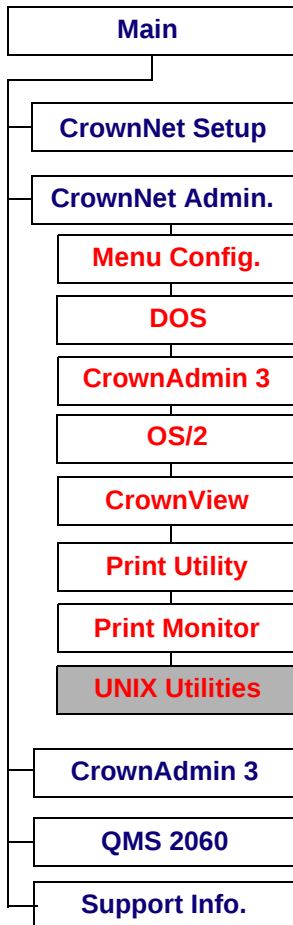
Monitoring Status

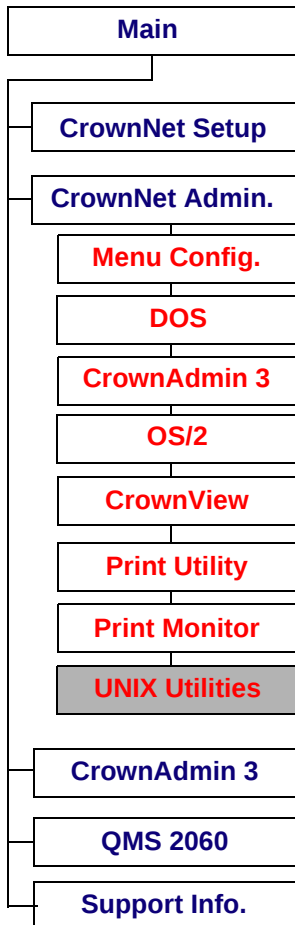
Using LPC

LPC is a UNIX utility that allow the system administrator to enter several UNIX printer control commands through a single command. After you add the QMS queue to the /etc/printcap file, the UNIX command

```
lpc status
```

should return the following message:





QMS:

```

queueing is enabled
printing is enabled
no entries
no daemon present
    
```

Using LPQ

The UNIX **lpq** command requests a job queue display similar to the following:

```

Printer Status:NO ERROR
Job #QueueTitleUserI/F Status
12 QMS chap1.psBrianEthernetSpooling 0 of 0
13 QMS pix.psJessEthernetPrinting 1 of 1
    
```

Notice that the Queue name reported is the name you defined in the **rp** field in the host's /etc/printcap file.

If no jobs exist in the queue, the following message displays:

```
Printer Status:NO ERROR
```

or

```
Printer Status:IDLE
```


In the event of an error on the printer, the NO ERROR message in the Printer Status field is replaced with the same message displayed in the printer's control panel message window.

